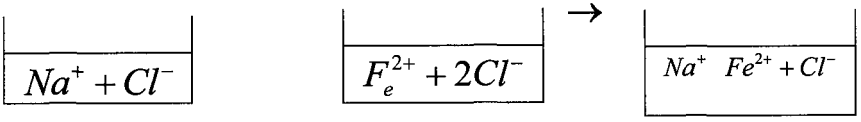
$\boxed{m = 2,54g}$

b) $F_eCl_2 \rightarrow F_e^{2+} + 2Cl^-$

c) $n_{Fe^{2+}} = n_{FeCl_2} = C_2V_2 = 0,2 \times 0,1 = 0,02mol$

$n_{Cl^-} = 2n_{FeCl_2} = 2C_2V_2 = 2 \times 0,2 \times 0,1 = 0,04mol.$

3) a) (S_1) (S_2) (M)



Dans le mélange M :

$n_{Na^+} = C_1V_1 = 0,6mol.$

$n_{Fe^{2+}} = C_2V_2 = 0,02mol.$

$n_{Cl^-} = n_{(Cl^-)_{S_1}} + n_{(Cl^-)_{S_2}} = C_1V_1 + 2C_2V_2$

$= 0,6 + 2 \times 0,02 = 0,64mol$

b) $\left[Na^+\right] = \dfrac{n_{Na^+}}{V_1 + V_2} = \dfrac{0,6}{0,2 + 0,1} = \dfrac{0,6}{0,3} = 2mol.L^{-1}$

$\left[Fe^{2+}\right] = \dfrac{n_{F_e^{2+}}}{V_1 + V_2} = \dfrac{0,02}{0,3} = 0,0666mol.L^{-1}$

$\left[Cl^-\right] = \dfrac{n_{Cl^-}}{V_1 + V_2} = \dfrac{0,64}{0,3} = 2,13mol.L^{-1}$

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